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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SY, MARIANO ONG	

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/708,680	TSENG ET AL.	
	Examiner	Art Unit	
	Mariano Sy	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on January 19, 2006 has been received.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 2, 4-9, 11, 12, 15, 17-21, 27, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman (US 6,612,394) in view of Fukushima et al. (US 4,903,983).

Re-claims 1, 2, 6-9, 11, and 12 Wessman disclosed, as shown in fig. 4, a method of controlling a vehicle having a vehicle suspension component, said vehicle having a first turning radius A2 comprising: applying brake-steer to at least one wheel to provide a second turning radius A1 less than the first turning radius, see abstract, background of invention and summary of invention.

However Wessman was silent to disclose a controllable suspension component and failed to disclose articulating at least one wheel coupled to the controllable suspension component to provide a third turning radius of the vehicle less than the second turning radius.

Under "Background of Invention" col. 1 of Wessman '394 teaches at least one wheel coupled to the suspension arrangement optimized for a small minimum turning radius.

Fukushima teaches the use of a controllable suspension component in a vehicle suspension system.

It would have been obvious to one of ordinary skill in the art to modify the suspension component of Wessman with a known controllable suspension component, in view of the teaching of Fukushima, in order to optimize turning characteristic of a vehicle.

Re-claims 4 and 5 Wessman was silent to disclose applying brake-steer comprises increasing normal load on a rear or a front wheel.

Fukushima teaches applying brake-steer comprises increasing normal load on a rear or a front wheel, see abstract and summary of the invention.

It would have been obvious to one of ordinary skill in the art to utilize the known brake-steer and increasing normal load on a rear or a front wheel on the vehicle of Wessman, as taught by Fukushima, in order to improve maneuverability of the vehicle during turning.

Re-claims 15 and 27 Wessman was silent to disclose a solenoid actuated suspension component.

Fukushima teaches, as shown in fig. 1-2, the use of a solenoid actuated suspension component.

It would have been obvious to one of ordinary skill in the art to utilize solenoid actuated suspension component into the suspension system of Wessman, in view of the teaching of Fukushima, in order to optimize turning characteristic of a vehicle.

Re-claim 17, 29, and 30 Wessman disclosed, as shown in fig. 4, a vehicle having a turning radius comprising: a suspension and a controller and under "Background of Invention" col. 1 teaches at least one wheel coupled to the suspension arrangement optimized for a small minimum turning radius.

Fukushima teaches the use of a controllable suspension component in a vehicle suspension system.

It would have been obvious to one of ordinary skill in the art to modify the suspension component of Wessman with a known controllable suspension component, in view of the teaching of Fukushima, in order to optimize turning characteristic of a vehicle.

Re-claims 18-21 Wessman disclosed, as shown in fig. 1-4, wherein the controller is programmed to determine a brake-steer condition in response to a parking mode, a parking mode in response to a vehicle speed and a steering wheel angle, see summary of invention.

5. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Ritz et al. (US 6,588,858)

Re-claims 3 and 23 Wessman as modified was silent to disclose applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel.

Ritz et al. teaches applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel so that the turning radius of vehicle is reduced, see abstract, col. 2, lines 43-67 and col. 3, lines 1-13.

It would have been obvious to one of ordinary skill in the art to have utilize the known teaching of applying brake-steer comprises applying an increased drive torque to a second wheel relative to a first wheel in the system of Wessman as modified, as taught by Ritz et al., in order to improve vehicle stability.

6. Claims 10 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Krueger et al. (US 6,481,806).

Re-claims 10 and 22 Wessman as modified was silent to disclose detecting a parking mode in response to a driver-actuated switch.

Krueger et al. teaches the use of a pedal brake switch 82 to sense a brake signal during a brake application.

It would have been obvious to one of ordinary skill in the art to utilize the known driver-actuated switch on the vehicle of Wessman as modified, as taught by Krueger et al., in order to detect a brake application.

7. Claims 13 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Nordstrom (US 4,227,716).

Re-claims 13 and 24 Wessman as modified failed to disclose the suspension component comprises articulating using a Hotchkiss suspension.

Nordstrom teaches the use of a Hotchkiss suspension.

It would have been obvious to one of ordinary skill in the art to utilize a Hotchkiss suspension in the suspension system of Wessman as modified, as taught by Nordstrom, is a matter of choice in design depending upon the type and cost of application.

8. Claims 14, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Lee (US 5,560,640).

Re-claims 14, 25, and 26 Wessman as modified failed to disclose the suspension component comprises a toe link coupled to an electrically controllable bushing.

Lee teaches, as shown in fig. 1-2, a suspension component comprises a toe link 5 coupled to an electrically controllable bushing 7.

It would have been obvious to one of ordinary skill in the art to modify the suspension component of Wessman as modified with a toe link coupled to an electrically controllable bushing, as taught by Lee, in order to improve vehicle stability.

9. Claims 16 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessman in view of Fukushima as applied to claims 1 and 17 above, and further in view of Kring (US 5,549,319).

Wessman as modified failed to disclose wherein the suspension component comprises a locking mechanism with a compliant rear suspension mount.

Kring teaches, as shown in fig. 1-4, the use of an adjustment mechanism 42-44 (wherein the claim language isbroad and can be read as a locking mechanism) with a compliant rear suspension mount.

It would have been obvious to one of ordinary skill in the art to modify the suspension component of Wessman as modified with a locking mechanism with a compliant rear suspension mount, as taught by Kring, in order to enhance the drivability of the vehicle.

10. Applicant's arguments filed on January 19, 2006 have been fully considered but they are not persuasive.

In the Remarks Applicants argued in claim 1 that "neither Fukushima (US 4,903,983) nor Wessman (US 6,612,394) references teach or suggest articulating a suspension component to reduce the turning radius of the vehicle" and "Fukushima merely provides changes to the damper to adjust the center of gravity of the vehicle and not to articulate at least one wheel. While the suspension appears to be moved in a vertical direction, in the Fukushima reference no articulating of at least one wheel is provided". Applicants argued in claim 17 that "no teaching is provided in the Wessman reference for a suspension that is controlled to reduce the turning radius of the vehicle in response to brake-steer. The Fukushima reference also does not teach brake-steer and does not teach generating a suspension control signal in response to the brake-steer condition'.

Examiner maintains the rejection is proper. This is a "103" rejection and not a "102" rejection. Wessman has disclosed, as shown in fig. 4, a method of controlling a vehicle having a vehicle suspension component, said vehicle having a first turning radius A2 comprising: applying brake-steer to at least one wheel to provide a second turning radius A1 less than the first turning radius, as clearly disclosed in the Abstract, Background and Summary of Invention. Under "Background of Invention", col. 1 of Wessman disclosed "at least one wheel coupled to the suspension arrangement optimized for a small minimum turning radius.

However Wessman was silent to disclose articulating at least one wheel coupled to a controllable suspension component to provide a third turning radius of the vehicle less than the second turning radius.

Fukushima teaches an active suspension system with variable stiffness wherein the stiffness of the suspension is controlled to permit a desired magnitude during steering, turning or cornering to adjust stiffness of the respective suspension accordingly as disclosed in the Summary of the Invention and wherein each wheel has a controllable suspension component.

It would have been obvious to one of ordinary skill in the art to modify the suspension component of Wessman with the known controllable suspension component, as taught by Fukushima, in order to maximize stability of the vehicle steering, turning, or cornering.

As for claims 3 and 23, Examiner maintains Ritz et al. (US 6,588,858) is mainly use for the teaching of the known drive torque clearly disclosed in the abstract, col. 2, lines 43-67 and col. 3, lines 1-13.

As for claims 10 and 22, Examiner maintains Krueger et al. (US 6,481,806) is mainly use for the teaching of the known use of brake pedal switch 82 as shown in fig. 1.

As for claims 13 and 24, Examiner maintains Nordstrom (US 4,227,716) is mainly use for the teaching of the known use of Hotchkiss suspension on a vehicle axle.

As for claims 14, 25, and 26 Examiner maintains Lee (US 5,560,640) is mainly use for the teaching of the known use of a suspension component comprises a toe link 5 coupled to an electrically controllable bushing 7.

As for claims 16 and 28 Kring (US 5,549,319) is mainly use for the teaching of the known use of an adjustment mechanism 42-44 (the claimed language is broad and can be read as a locking mechanism) with a compliant rear suspension mount.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariano Sy whose telephone number is 571-272-7126. The examiner can normally be reached on Mon.-Fri. from 8:30 A.M. to 2:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan, can be reached on 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Sy

March 27, 2006

JAMES MCCLELLAN
SUPERVISORY PATENT EXAMINER
3/30/06